UNDERSTANDING JOHNE'S DISEASE IN AUSTRALIAN DAIRY CATTLE

WHAT IS JD?

Johne's disease (JD) in cattle, is a chronic wasting disease caused by the bacterium, *Mycobacterium avium* subspecies *paratuberculosis*. Cattle become infected at a very young age when exposed to this bacterium, with signs of the disease not appearing until the animal reaches approximately four years of age or older.

Diagnosis of JD can be difficult and is often done through faecal tests for the presence of the bacteria. If detected in animals, relevant state/territory Department of Agriculture or Primary Industries must be notified. In most states there is no longer any further action by the Department (the exception being Western Australia).

JD has also been found to affect sheep, goats, deer and much less commonly alpacas.

WHAT ARE THE SIGNS OF JD IN CATTLE?

The bacteria causing JD inhabits the intestines of infected animals. It causes a thickening of the intestinal wall, reducing the ability of the animal to absorb nutrients through their diet. This leads to the common signs of JD including persistent weight loss, reduced milk production and chronic, often green bubbly diarrhoea, or an individual may simply appear to be less productive. This may also be present with a dull and rough coat, dry skin and 'bottle jaw' (swelling on the underside of the jaw of the animal).

As the disease progresses, signs can worsen to more severe emaciation, blood in the diarrhoea, weakness and ventral oedema (swelling in front of the udder). Progression of the disease eventually leads to death of the infected animal as JD has no treatment.

HOW IS JD SPREAD?

Transmission of JD normally occurs at a young age when calves ingest contaminated faeces. This often occurs through contamination of the dam's udder, or contamination of milk, feed, water or other surfaces the calf is exposed to. It may be possible for a calf to become infected in utero from a sub-clinical dam however, this is less common.

Once a calf has become infected, the bacteria remains somewhat dormant until the calf reaches approximately four years of age, making detection of infected calves very difficult.

Spread in a herd is best controlled by reducing the risk of calves coming into contact with contaminated surfaces. This includes early separation of dam and calf and practicing good hygiene in the care and feeding of calves. Routine faecal testing of mature cattle is also recommended to identify and cull animals shedding the bacteria. To avoid spread to a herd it is recommended that producers only purchase stock from herds with a low JD risk (e.g. with a high Johne's Disease Dairy Score (JDDS) recorded on a national Cattle Health Declaration[1]).

WHY SHOULD YOU PREVENT THE SPREAD OF JD?

Dairy cattle infected with JD have a detrimental effect on the productivity and profitability of a dairy herd through lost production and stock losses. The first impact often noticed in JD-affected dairy cattle is a 5-15% reduction in milk production despite a normal appetite, reducing feed conversion efficiencies. This will reduce income while expenditure remains the same.

Following the reduction of milk production when animals start to exhibit other signs leading to JD diagnosis, affected animals need to be reported to the relevant state/territory Department of Agriculture/ Primary Industries and should be culled. As these animals will normally be losing body condition, slaughter price will be reduced, further impacting business profitability.

Reputational damage can occur once a herd is known as high risk for JD. Sale of stud or other productive animals will be limited to buyers who are willing to purchase from a high-risk herd. There can also be an impact on property value as the bacteria causing JD can survive in the soil under cool moist conditions for up to 12 months.

1 www.farmbiosecurity.com.au/toolkit/declarations-and-statements/